

Developmental Manifestations of Borderline Personality Pathology from an Age-Specific Dimensional Personality Disorder Trait Framework

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There are many ways to conceptualize adult borderline personality pathology, either along established dimensions of various personality pathology taxonomies (Schedule for Nonadaptive and Adaptive Personality; SNAP, Clark, 1993; Dimensional Assessment of Personality Pathology-Basic Questionnaire; DAPP-BQ, Livesley, 1990) or along the more traditional DSM-criteria (DSM-IV-TR, American Psychiatric Association [APA], 2000) that are strongly embedded within adult diagnostic procedures. The clinical manifestation of adult borderline personality disorder (BPD) is complex and includes impulsive behaviors, marked affective instability, unstable intimate relationships, and neuropsychological abnormalities, such as dissociative experiences (Paris, 2005a). This clinical richness and the associated high level of impairment have challenged many research groups to understand more firmly the etiology of borderline pathology (Cartwright, 2008; Paris, 2009).

The path towards the etiological roots of BPD is slippery, however, because there is no one-to-one relationship between the child and adult borderline construct (Paris, 2005b). Although there are shared elements between the child and adult BPD (Sharp & Romero, 2007), the assumption

that all adult patients with BPD have a clear history of childhood BPD symptoms stands in contrast to the reality of the development of personality disorders, and reduces the etiological complexity of psychopathology into a linear one-dimensional framework. In addition, the construct, as such, implies that adult BPD symptoms cannot be defined from a number of clear-cut risk factors, but rather develop from multiple adversities (Bradley, Jenei, & Westen, 2005; Cartwright, 2008; Paris, 2009) that tend to cumulate with age into a complex clinical picture that was historically framed at the border of neurosis and psychosis (Kernberg, 1984). Beyond these challenges, unraveling the content and significance of BPD precursors is complicated by the fact that (1) a childhood diagnosis of BPD is seen as controversial because of its stigmatizing effect (Cartwright, 2008; Chanen & McCutcheon, 2008), that further impeded longitudinal research and resulted in a lack of empirical evidence (Carlson, Egeland, & Sroufe, 2009; Cohen, Crawford, Johnson, & Kasen, 2005) and (2) because childhood taxonomies of personality (e.g., the Hierarchical Personality Inventory for Children; HiPIC, Mervielde & De Fruyt, 1999, 2002; Mervielde, De Fruyt, & De Clercq, 2005; ICID, Halverson et al., 2003) and personality pathology (e.g., the Shedler-Westen Assessment Procedure-200; SWAP-200-A, Westen, Shedler, Durrett, Glass, & Martens, 2003 or the Dimensional Personality Symptom Itempool; DIPSI, De Clercq, De Fruyt, Van Leeuwen, & Mervielde, 2006) have only recently gained their status next to their adult

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counterparts, which hindered the conceptualization of trait vulnerabilities in younger age groups for a long time (Widiger & Clark, 2000).

Given the above, it is tempting to conceptualize the childhood BPD construct into workable and trait-oriented clusters of symptoms. In addition, the question of normality or abnormality of the childhood BPD construct creates a tension that can be understood from the specific developmental context of childhood that tends to normalize early BPD-related symptoms on the one hand and the importance of describing potential at-risk traits in an early stage of development on the other (Chanen & Kaess, 2012). An empirically based and age-specific proposal of potential BPD-related traits in younger age groups may therefore be the safest strategy for developing a well-balanced and valid childhood BPD profile. From this perspective, the current chapter presents data on early trait correlates of adult-related BPD pathology. More specifically, the childhood BPD trait profile will be framed from the DIPSI (De Clercq et al., 2006), an established taxonomy of early maladaptive traits that offers an age-specific and comprehensive description of early maladaptive personality tendencies. This specific dimensional approach for delineating a childhood BPD profile can be advocated from recent evidence suggesting that childhood BPD dimensions are measurable and relatively stable across time (Chanen & Kaess, 2012).

The Controversial Character of Childhood BPD Pathology

Personality disorder precursors in childhood and adolescents have received little systematic attention in the literature (Widiger, De Clercq, & De Fruyt, 2009) for reasons that have been extensively reviewed in previous publications (De Fruyt & De Clercq, 2012; Tackett, 2010). Although more recent evidence on the stability and predictive validity of childhood trait dimensions (Caspi, Roberts, & Shiner, 2005; De Clercq, Van Leeuwen, Van den Noortgate, De Bolle, & De Fruyt, 2009; De Fruyt et al., 2006) has encouraged the field to invest in longitudinal

research programs on the course of personality disorders, the developmental trajectory of BPD still remains largely unclear (Crowell, Beauchaine, & Linehan, 2009). Much of the existing knowledge on environmental childhood risk factors for BPD pathology results from retrospective studies in adults with personality pathology (e.g., Elzy, 2011; Klonsky, Oltmanns, Turkheimer, & Fiedler, 2000), indicating that family adversity, including frequent conflict, low social support, parental neglect, as well as sexual and physical abuse, are closely associated with borderline personality features in adulthood.

From a child perspective, the term *borderline personality of childhood (BPC)* historically describes a complex and severe form of behavioral pathology, with a mixed clinical picture of externalizing, internalizing, and cognitive symptoms (Ad-Dab'bagh & Greenfield, 2001). Geiger and Crick (2001) more specifically identified cognitive and emotional sensitivity, the desire to have exclusive friendships, and relational aggression as indicators of BPD pathology in childhood, and Crick, Murray-Close, and Woods (2005) showed that these childhood characteristics empirically tracked together with the scores on an independent BPD measure over the course of 1 year. The childhood BPD syndrome has also been labeled as *multiple complex developmental disorder* (Lincoln, Bloom, Katz, & Boksenbaum, 1998), reflecting the complex nature of the displayed abnormalities in BPC. A sparse number of prospective studies have shown that these BPD features are rather stable over time (Cohen et al., 2005; Crick et al., 2005), and that BPC children continue to exhibit severe problems over time (Paris, 2003). Zelkowitz et al. (2007) for instance showed that children diagnosed with BPC were more likely to exhibit a combination of both internalizing and externalizing problem behaviors 5–7 years later and also showed a more impaired functional status compared with a general group of referred children without BPD features. Likewise, Belsky et al. (2012) demonstrated from a longitudinal twin-study that 5-year-old children with poor cognitive functioning, impulsivity, and behavioral–emotional problems more commonly

developed into early adolescents with a BPD-related profile.

Across a wider age-span, Carlson et al. (2009) found that childhood measures of activity and emotionality, and adolescent measures of attention, emotion regulation, and relational functioning maintained to be predictors of BPD symptomatology in adulthood. Burke and Stepp (2012), Stepp, Burke, Hipwell, and Loeber (2012) suggested from an Axis I perspective that childhood attention deficit hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD) predicted BPD symptoms at age 14 and 24, respectively, indicating that ADHD shares the clinical features of impulsivity, poor self-regulation and executive functioning with BPD, whereas ODD reflects a shared element with BPD in terms of anger and interpersonal turmoil.

Although these results indicate that BPD can be traced back to childhood, it seems rather difficult to delineate the core aspects of BPD precursors in terms of well-defined constructs. It must also be stressed that early maladaptive traits are subject to maturational influences (Lenzenweger & Castro, 2005) and interact with environmental influences (Hooley, Cole, & Gironde, 2012), with many children with BPD characteristics turning into adaptive individuals. For the minority of children with a rather stable profile of symptomatology throughout childhood and adolescence, it is in addition important to note that they are not exclusively at risk for later BPD pathology, but are in general more prone to display various patterns of personality disorders (Lofgren, Bemporad, King, Lindem, & Odriscoll, 1991) when they grow older. This heterogeneity in developmental trajectories of BPD pathology can mainly be understood from a number of developmental principles or methodological issues (De Fruyt & De Clercq, 2012). From a conceptual viewpoint, however, an additional reason why evidence on the childhood BPD profile is so divergent and difficult to grasp in terms of its underlying features is because the operationalization of the childhood BPD construct varies substantially across studies and is in addition often solely based upon conceptual criteria

(Geiger & Crick, 2001) or derived from adult measures (i.e., the Children in the Community Study; Cohen et al., 2005). Until recently, no studies relied on a comprehensive and age-specific personality pathology trait measure that was able to propose trait-based risk factors for later BPD pathology from an inclusive and child-oriented perspective. In an attempt to address this issue, the identification of BPD-related traits in the present chapter will rely on a taxonomy of maladaptive traits that was specifically developed to describe childhood manifestations of personality pathology within a dimensional framework.

Dimensional Assessment of Personality Pathology Traits in Childhood: The DIPSI

Combining a bottom-up and a top-down approach, De Clercq et al. (2006) constructed a broad and comprehensive taxonomy of trait-related symptoms in childhood. This Dimensional Personality Symptom Item Pool (DIPSI) was primarily developed from the more extreme item content of the personality items of a childhood FFM measure (i.e., the HiPIC; Mervielde & De Fruyt, 1999). The initial pool of maladaptive HiPIC descriptors was extended with a top-down strategy, by adding items of adult measures for personality pathology (i.e., the Structured Clinical Interview for DSM-IV Axis-II Personality Disorders (SCID-II); First, Gibbon, Spitzer, Williams, & Benjamin, 1997 and the Assessment of DSM-IV Personality Disorders (ADP-IV); Schotte, de Doncker, Vankerckhoven, Vertommen, & Cosyns, 1998), that were assumed to be relevant in younger age groups. The resulting DIPSI item set comprises 172 items that are structured in 27 maladaptive personality facets, hierarchically organized in four broad personality dimensions. This four-dimensional structure is consistent with O'Connor (2005), Saulsman and Page (2004), and Widiger and Simonsen (2005), and is further referred to as disagreeableness (including extreme low-end variants of benevolence and conscientiousness and high-end variants of

extraversion), emotional instability (referring to both anxious and depressive traits and also including a dependency component), introversion (describing extreme low-end variants of extraversion such as withdrawn traits and shyness), and compulsivity (including the extremes of conscientiousness traits such as perfectionism and extreme order).

The DIPSI's four higher-order maladaptive trait factors represent unique trait constructs that are associated with, but distinct from the established higher-order dimensions of internalizing and externalizing problem behavior (De Clercq, Van Leeuwen, De Fruyt, Van Hiel, & Mervielde, 2008) as described in the Child Behavior Checklist (CBCL; Achenbach, 1991). Their nature is further reflected in the correlation with normal-range higher-order personality traits (De Clercq et al., 2006), and in their conceptual fit within the common higher-order framework of the FFM (Markon, Krueger, & Watson, 2005). The lower-order traits are to be interpreted along the extremes of general lower-order trait facets (Widiger et al., 2009), but additionally provide a more detailed description of pathological trait features that are not fully accounted for by general trait or temperament models (De Clercq et al., 2009). From a conceptual point of view, it has also been demonstrated that the DIPSI lower-order traits show a notable coverage of potential personality disorder precursors (De Clercq et al., 2009) as delineated by Geiger and Crick (2001). Recent studies have indicated that DIPSI facets can be used to reliably and validly describe psychopathic traits (Decuyper, De Bolle, De Fruyt, & De Clercq, 2011), obsessive-compulsive symptoms (Aelterman, De Clercq, De Bolle, & De Fruyt, 2011), and autism spectrum symptoms (De Clercq et al., 2010) in childhood and adolescence. Given these different sources of evidence that support the validity of the DIPSI for describing various disorder-based aspects of maladaptation, it seems plausible that specific DIPSI facets may also be relevant correlates of BPD-related pathology.

DIPSI Trait Correlates of BPD Pathology from a Cross-Sectional and Longitudinal Perspective

In an attempt to empirically delineate which age-specific facets of personality pathology are associated with BPD pathology, the current chapter presents data from two different perspectives. In a first approach, we will explore how DIPSI facets are cross-sectionally associated with two established operationalizations of BPD that are embedded within either the categorical or the dimensional tradition for describing personality disorders. A second approach takes a longitudinal perspective and focuses on the longitudinal associations of DIPSI traits with a dimensional operationalization of BPD, as advised by the most recent DSM-5 proposal of the APA Board of Trustees (Arlington, December 1, 2012).

Both perspectives rely on different samples and will be separately described in the next section. Based upon these results, a comprehensive empirically based childhood BPD profile of DIPSI traits will be proposed.

A Cross-Sectional Perspective on Borderline PD and DIPSI Trait Precursors

Cross-sectional associations between childhood maladaptive traits and BPD symptomatology were examined in a community sample of 293 boys ($N = 144$, 49.10 %) and girls ($N = 149$, 50.90 %) from a multi-informant perspective. Age ranged from 12 to 18 years, with a mean age of 15.93 ($SD = 1.35$). These adolescents and their mothers were recruited via secondary schools in Flanders. Researchers and undergraduate students of Ghent University visited secondary schools, distributed inventories, and provided detailed oral and written instructions on how to complete the questionnaires. Written informed consent was obtained from all participants at

the moment of assessment. This sample was previously used for other research purposes by Decuyper, De Clercq, De Bolle, and De Fruyt (2009).

In a first analysis, the BPD-related construct was assessed using the maternal-rated borderline scale of the Flemish ADP-IV (Schotte et al., 2004) measure that includes 94 items reflecting the content of the 10 DSM-IV personality disorder criteria. The second analysis relied on the self- and maternal-rated FFM BPD count (Miller, Bagby, Pilkonis, Reynolds, & Lynam, 2005), a count technique that conceptualizes PDs from a general trait perspective and uses FFM facet score counts to index the degree of similarity between an individual's FFM scores and those expected from BPD patients. Decuyper et al. (2009) recently showed that the FFM PD counts, including the FFM borderline count, are applicable in adolescent samples. They also provided normative data and PD count benchmarks enabling the use of FFM scores for PD screening purposes in adolescence.

Pearson correlations between maternal-rated DIPSI facets and the categorical ADP-IV BPD scale (see Table 7.1) show that BPD pathology is significantly ($p < 0.002$ according to the Bonferroni correction) and positively associated with all DIPSI facets, except for the Compulsivity facet Extreme Order. A similar picture is obtained for the maternal-rated FFM BPD count, which is positively correlated with most of the DIPSI facets, except for inflexibility, perfectionism, extreme achievement striving, extreme order, and withdrawn traits. This overall maladaptive trait profile of BPD pathology across the childhood trait domains of disagreeableness, emotional instability, and introversion may be understood from the idea that BPD-related pathology in childhood and adolescence is characterized by a complex clinical picture of internalizing, externalizing, and cognitive problems (Ad-Dab'bagh & Greenfield, 2001). These observed correlations may however also be inflated because of the same-informant design, or may reflect that the DIPSI traits capture a more general component of dysfunction. Beyond the overall association of the adult BPD

construct with childhood maladaptive traits, there is however a specific set of DIPSI traits that strongly correlates ($r \geq 0.30$; Cohen, 1988) with the adult BPD construct across informants (using self-ratings for the FFM BDL count and maternal DIPSI ratings). These are affective lability, impulsivity, ineffective coping, hyperexpressive traits, irritable-aggressive traits, and risk behavior. The blending of these traits results in a trait profile that conceptually aligns with the definition and previous findings on the childhood BPD construct (Paris, 2003, 2005c) hence underscoring the validity of each of these childhood maladaptive traits as relevant age-specific descriptors of BPD-related pathology.

A Longitudinal Perspective on Borderline PD and DIPSI Trait Precursors

The longitudinal analyses rely on three different samples, including one same-informant and two cross-informant designs. The first sample ($N = 501$; 65.5 % girls; 8–18 years old, $M = 12.93$, $SD = 2.26$), comprises data from children of the general population as well as referred children, that were combined in order to maximize the variability in scores. Mothers provided information on their children's maladaptive personality traits (DIPSI) at Time 1 and also assessed BPD prototype-related traits 4 years later, as measured with the proposed trait measure for describing personality pathology in DSM-5 (Personality Inventory for DSM-5 (PID-5); Krueger et al., 2011). The PID-5 measure consists of 25 facets of personality pathology that can be empirically structured in five broadband domains of maladaptive personality variation (i.e., negative affect, detachment, antagonism, disinhibition, and psychoticism). The use of this dimensional trait measure in the current study can be understood from the recent suggestion of the APA (Arlington, December 1, 2012), stating that the implementation of a dimensional trait model in future editions of the DSM requires more research in order to fully underpin this “categorical to dimensional” shift.

Table 7.1 Bivariate correlations between DIPSI scales and the ADP-IV borderline scale and FFM borderline counts

	BDL ADP-IV maternal	BDL PD count maternal	BDL PD count self
Maternal-rated DIPSI facets			
DIS: Hyperexpressive traits	0.54*	0.57*	0.31*
DIS: Hyperactive traits	0.53*	0.47*	0.24*
DIS: Dominance—Egocentrism	0.53*	0.49*	0.29*
DIS: Impulsivity	0.65*	0.63*	0.34*
DIS: Irritable—Aggressive traits	0.70*	0.62*	0.30*
DIS: Disorderliness	0.50*	0.48*	0.29*
DIS: Distraction	0.56*	0.48*	0.20*
DIS: Risk behavior	0.55*	0.48*	0.30*
DIS: Narcissistic traits	0.49*	0.43*	0.23*
DIS: Affective lability	0.73*	0.67*	0.38*
DIS: Resistance	0.59*	0.45*	0.19*
DIS: Lack of empathy	0.47*	0.32*	0.11
INS: Dependency	0.55*	0.46*	0.16
INS: Anxious traits	0.61*	0.58*	0.25*
INS: Lack of self-confidence	0.57*	0.50*	0.27*
INS: Insecure attachment	0.58*	0.42*	0.15
INS: Submissiveness	0.43*	0.32*	0.12
INS: Ineffective coping	0.68*	0.67*	0.33*
INS: Separation anxiety	0.58*	0.46*	0.24*
INS: Depressive traits	0.70*	0.59*	0.28*
INS: Inflexibility	0.61*	0.40*	0.14
ITR: Shyness	0.47*	0.29*	0.08
ITR: Paranoid traits	0.53*	0.37*	0.13
ITR: Withdrawn traits	0.36*	0.12	−0.03
COM: Perfectionism	0.34*	0.17	0.03
COM: Extreme achievement striving	0.23*	0.14	0.05
COM: Extreme order	0.15	−0.04	−0.06

DIS Disagreeableness, *INS* Emotional Instability, *COM* Compulsivity, *ITR* Introversion

* $p < 0.002$ according to the Bonferroni adjustment

In order to define the BPD construct relying on PID-5 scores, we summed the scores on the DSM-5 traits that have been appointed as indicative of BPD pathology (www.DSM-5.org): Emotional Lability, Anxiousness, Separation Insecurity, Depressivity, Impulsivity, Risk Taking, and Hostility.

The cross-informant perspective was implemented in two different samples, including a mixed sample of community and referred children ($N = 307$; 61.7 % girls; 8–16 years old, $M = 11.67$, $SD = 1.77$), with maternal ratings on the DIPSI at Time 1 and PID-5 self-ratings 4 years later, and a population sample of children ($N = 370$; 65.4 % girls; 7–18 years old,

$M = 12.84$, $SD = 2.47$), with self-ratings on the DIPSI at Time 1 and maternal PID-5 ratings 4 years later (see Table 7.2). All samples were part of the ongoing Personality and Longitudinal Affect Study of Ghent University, as already described in De Bolle, Beyers, De Clercq, and De Fruyt (2012) and in De Clercq et al. (2009).

Hierarchical regression analyses were conducted to empirically explore which DIPSI facets are able to predict the childhood BPD prototype, either from a same- or a cross-informant perspective and each time controlling for gender and age (in Step 1).

All DIPSI facets that correlated substantially (≥ 0.30 ; Cohen, 1988) across the categorical

Table 7.2 Cross-informant hierarchical regression analysis predicting the borderline prototype (T2) from DIPSI traits (T1)

Ratings		Mother-ratings (T1) → Self-ratings (T2) (N = 307)						Self-ratings (T1) → Mother-ratings (T2) (N = 370)					
Step and variable		B	S.E.	β	R^2	F	F_{change}	B	S.E.	β	R^2	F	F_{change}
DV: Borderline Prototype													
Step 1					0.00	0.31	0.31				0.03	4.65*	4.65*
Age		-0.05	0.08	-0.04				0.04	0.05	0.04			
Sex		0.16	0.30	0.03				0.71	0.25	0.15**			
Step 2					0.13	5.63***	7.39***				0.10	5.22***	5.30***
DIS: Hyperexpressive traits		0.12	0.25	0.04				-0.01	0.25	-0.00			
DIS: Impulsivity		0.04	0.26	0.01				-0.22	0.20	-0.07			
DIS: Irritable-aggressive traits		-0.15	0.36	-0.05				0.61	0.25	0.19*			
DIS: Risk behavior		0.22	0.30	0.06				0.18	0.20	0.06			
DIS: Affective lability		1.04	0.32	0.37**				0.03	0.20	0.01			
INS: Ineffective coping		-0.08	0.27	-0.03				0.36	0.21	0.13			

DIS Disagreeableness, INS Emotional Instability, ITR Introversion

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

Table 7.3 Same-informant hierarchical regression analysis predicting the borderline prototype (T2) from DIPSI traits (T1) (both mother-ratings) ($N = 501$)

Step and variable	B	S.E.	β	R^2	F	F_{change}
DV: Borderline prototype						
Step 1				0.03	7.72**	7.72**
Age	−0.18	0.05	−0.15**			
Sex	0.58	0.25	0.11*			
Step 2				0.31	27.07***	32.52***
DIS: Hyperexpressive traits	0.01	0.19	0.00			
DIS: Impulsivity	0.03	0.19	0.01			
DIS: Irritable–aggressive traits	0.90	0.27	0.26**			
DIS: Risk behavior	0.21	0.22	0.05			
DIS: Affective lability	0.54	0.24	0.18*			
INS: Ineffective coping	0.30	0.20	0.10			

DIS Disagreeableness, INS Emotional Instability, ITR Introversion

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

(ADP-IV BDL scale) and dimensional (FFM BDL count) BPD-related constructs as reflected in Table 7.1 were entered as a block of predictors (i.e., hyperexpressive traits, impulsivity, irritable–aggressive traits, risk behavior, affective lability, and ineffective coping) with the DSM-5 BPD prototype as dependent variable (see Table 7.3).

Same-informant ratings. In the prediction of the BPD prototype, Table 7.3 shows that Step 1 explained 3 % of the variance, with age as a significant negative predictor and sex as a significant positive predictor. Boys had lower BPD prototype scores compared to girls. In Step 2, 31 % of the BPD prototype variance was explained with irritable–aggressive traits as well as affective lability as significant predictors.

Cross-informant ratings. Predicting the self-rated BPD prototype based upon maternal DIPSI ratings (see Table 7.2), Step 1 explained no variance. Childhood maladaptive traits appeared to explain 13 % of the variance of the BPD type 4 years later, with affective lability as the only significant predictor. Predicting the maternal-rated BPD type from self-ratings on the DIPSI, gender showed to be a significant predictor in a first step of the regression analysis, with boys scoring lower on the BPD prototype compared to girls. In Step 2, self-rated maladaptive traits explained 10 % of the variance of the BPD

prototype, with irritable–aggressive Traits as significant predictor. To summarize, this longitudinal same- and cross-informant perspective clearly underscores that BPD pathology can be predicted from childhood personality difficulties, suggesting that irritable–aggressive traits and affective lability are two core predictive components for later BPD-related difficulties.

An Age-Specific Dimensional Proposal for Childhood BPD Pathology

The present results indicate that adult operationalizations of BPD can be predicted from childhood maladaptive traits, with irritable–aggressive traits and affective lability as the most significant precursors, and in a broader sense also hyperexpressive traits, impulsivity, risk behavior, and ineffective stress coping. This empirically based childhood maladaptive trait description of BPD disorder captures a significant part of the established clinical picture of BPD disorder, but is not inclusive. More specifically, the emotional instability component may be somewhat underrepresented, since only ineffective coping showed to be a significant correlate across raters. BPD is however described as a disorder with a considerable internalizing component, such as manifest anxious and depressive traits (Belsky et al., 2012;

Table 7.4 An age-specific dimensional childhood borderline profile from the DIPSI framework

DIPSI facet	Score	Description
Hyperexpressive traits	High ^a	The child behaves in a way to stand out. He or she constantly expresses feelings and thoughts in an inappropriate way. The environment often interprets these expressions as disturbing
Impulsivity	High	The child acts and reacts impulsively, both in social situations and cognitive tasks
Irritable–aggressive traits	High	The child is easily frustrated and expresses his anger in an uncontrolled way
Risk behavior	High	The child is fearless and experiences a hunger for adventure and excitement
Affective lability	High	The child displays extreme mood swings
Ineffective stress coping	High	The child cannot cope with stress and is easily overwhelmed by emotions
Anxious traits	High	The child often worries and experiences an unrealistic fear. The child reacts overanxious in a variety of situations
Lack of self-confidence	High	The child considers himself/herself as less important than others. The child has a low self-esteem and doesn't believe in his/her own capacities
Insecure attachment	High	The child shows clinging behavior that is age-inappropriate
Depressive traits	High	The child is easily discouraged and often pessimistic
Paranoid traits	High	The child is suspicious and has no confidence in other people

^aA decile of eight or more is considered to represent a high score. Normative data are available upon request

Hooley et al., 2012) and characteristic insecure attachment patterns (Scott, Levy, & Pincus, 2009). Although the content of the DIPSI facet ineffective coping is broad, representing both dysfunctional stress coping, a sensitivity to stress, and the tendency to be easily overwhelmed by emotions, including emotions of anxiety and panic, it can be assumed that the DIPSI facets anxious traits, lack of self-confidence, insecure attachment, and depressive traits may be significant additional indicators in order to describe the internalizing aspect of the BPD profile in the most comprehensive way. Also, the DIPSI scale paranoid traits can be expected to be a prominent correlate from a conceptual point of view, because of the brief episodes of psychotic or paranoid thinking that are often observed in children (Paris, 2003; Zerkowitz et al., 2007) with BPD features. Moreover, the symptom “transient, stress-related, paranoid ideation, or severe dissociative symptoms” is also included in the DSM-IV (APA, 1994) diagnostic BPD criteria for adults, and research has shown that approximately 75 % of the BPD patients had paranoid ideas and/or experienced episodes of dissociation (Hooley et al., 2012).

From these empirical findings and additional conceptual arguments, we propose a comprehensive childhood BPD profile from the DIPSI

framework (see Table 7.4 for further description) that may provide the most inclusive age-specific description of the traits that are relevant at a young age for understanding later personality difficulties in terms of BPD pathology. We assume that children who are overly expressive, impulsive, and irritable, and who experience mood swings, anxiety, little self-confidence, and display an insecure attachment pattern, together with a behavioral profile of risk behavior and ineffective coping strategies, are most at risk for developing a maladaptive personality that aligns with the adult concept of BPD.

Conclusions

Although the burden of BPD is broadly documented (Crowell et al., 2009; Skodol et al., 2002), research focusing on its developmental precursors has been lacking for a long time. This absence of a life-span perspective is shared by almost all personality disorders, except for antisocial personality disorder that has been systematically linked to childhood conduct disorder since DSM-III (APA, 1980). The tremendous individual, family and public cost of BPD can however at least be considered noteworthy, with many of the BPD patients showing a lasting unstable and

destructive pattern of psychosocial functioning, chronic relapse, and societal isolation. This impaired outcome of adult BPD signifies the importance of identifying and treating those individuals that are at risk for developing BPD at a much younger age than early adulthood, especially because there is evidence that developmental BPD manifestations show a higher level of plasticity in younger age groups (Lenzenweger & Castro, 2005). Recently, Sharp, Ha, Michonski, Venta, and Carbone (2012) indicated, however, that early intervention is hindered by the fact that there are few reliable and valid measures with which to identify youth with BPD traits. Corroborating this statement, we argue that studies on BPD precursors that include child measures developed to describe trait pathology in a broad sense, may contribute in a unique way to this research field compared to specific childhood BPD measures. Although a recent measure of childhood BPD traits (i.e., the Borderline Personality Features Scale for Children (BPFS-C); Crick et al., 2005) appears to be promising in terms of psychometric properties and validity (Chang, Sharp, & Ha, 2011), only a comprehensive trait measure takes into account that the borderline outcome may develop from other traits than the “typical” childhood equivalents of borderline pathology (i.e., equifinality, Cicchetti & Rogosch, 1996). Moreover, a dimensional trait measure meets a number of age-specific problems associated with the traditional categorical assessment, such as the ability to detect subtle variations in scores over time that have naturally been observed in younger age groups (Lenzenweger & Castro, 2005; Miller, Muehlenkamp, & Jacobson, 2008).

From such a comprehensive child-specific maladaptive trait perspective, the current chapter presents data on early dimensional trait correlates of various borderline operationalizations embedded within both the categorical and dimensional research tradition, across three independent samples of Flemish children. The data are characterized by a

multi-informant design and frame borderline-related precursors from both cross-sectional and longitudinal associations of the DIPSI maladaptive traits with an adult borderline measure. Cross-sectional analyses suggest that six specific DIPSI trait facets are replicable correlates across both categorical and dimensionally oriented operationalizations of BPD, suggesting that these traits may capture a substantial part of core variance of the borderline construct. The majority of these traits represent an age-specific reflection of the typical borderline profile, such as impulsivity, irritable–aggressive traits, affective lability, and ineffective stress coping. Two other traits, hyperexpressive traits and risk behavior, represent a rather new perspective on potential relevant developmental manifestations of borderline disorder. Although both traits are subsumed under the disagreeableness trait domain and can hence be considered as indicators of the established externalizing trait component of borderline disorder, they may intuitively not be the most obvious externalizing traits that one would select as a borderline precursor. On the other hand, they can both be assumed to share some etiological factors with the DIPSI trait impulsivity (De Clercq et al., 2006), and can hence be considered as two traits that may broaden the core impulsivity domain towards associated features of impulsivity-related maladaptation (Cooper, Wood, & Orcutt, 2003). From the principle of heterotypic continuity (Cicchetti & Crick, 2009), stating that the phenotypic manifestation of a single underlying trait may vary with age, hyperexpressive traits and risk behavior may also signify an age-specific expression of an established adult borderline trait, and hence represent a more evident aspect of borderline disorder than initially assumed.

Out of these six DIPSI trait correlates, two facets remain significant predictors of the adult BPD construct in an independent longitudinal and multi-informant design, with irritable–aggressive traits and affective lability representing developmental expressions of

later BPD symptomatology. Both of these DIPSI facets share their disagreeable and emotional instability component (see De Clercq et al., 2006 for significant loadings on both dimensions), and may provide a viable developmental explanation for the extensive internalizing–externalizing comorbidity in BPD that has been repeatedly illustrated in empirical studies (Gunderson, 2001; Skodol et al., 2002). Conceptually, these results connect with the biosocial developmental model of borderline personality of Linehan (1993) at the descriptive level, in which various aspects of emotional dysregulation (such as irritable–aggressive traits and affective lability) are proposed as core child-related vulnerabilities for developing BPD. Future research should however examine to what extent these two traits represent a comprehensive representation of those child factors that contribute to the ontogenesis of BPD.

From this essential issue of the need for comprehensiveness, we therefore propose additional conceptually based indicators of childhood borderline pathology, that broaden the assessment of the childhood BPD-related symptoms towards the aspect of anxiousness, depressive traits, insecure attachment, and paranoid traits. This DIPSI childhood borderline profile affords the opportunity to adopt a broad but age-specific BPD operationalization in future studies on the development of borderline disorder, and may further be valuable in studies on heritability estimates of BPD at the specific age of childhood, given that this research area is still rather unexplored (Bornova, Hicks, Iacono, & McGue, 2009).

From a critical point of view, the present results should be interpreted as tentative, given the short follow-up time span as well as the restriction of only two assessment points. Also, the childhood BPD profile was exclusively delineated from a descriptive level of associations, and does not guarantee that biologically based precursors of adult BPD are covered. Future research should in addition explore to what extent the proposed

DIPSI BPD traits interact with the multiple contextual factors that have been identified as environmental risk factors for BPD (e.g., Johnson, Cohen, Brown, Smailes, & Bernstein, 1999; Widom, Czaja, & Paris, 2009), and should further verify the various developmental trajectories of those children that present high scores on the proposed DIPSI BPD traits in relation to the specific developmental context of the child. Only large prospective studies will be able to identify how these early traits can be considered as direct vulnerability factors for a BPD outcome, and to what extent the transactional processes of these traits with the environment lead to BPD maladaptation. In addition, future research that incorporates multiple maladaptive traits as predictors of later BPD pathology should empirically delineate the relative contribution of each of these traits in terms of their impact on the developmental course of the child and the eventual outcome.

In sum, the current data suggest that the DIPSI framework generates a number of facets that are significantly associated with adult operationalizations of BPD across multiple informants, and suggest that the DIPSI measure may contribute to the field of childhood assessment of BPD pathology from a behaviorally oriented and non-stigmatizing perspective.

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Suggested Reading

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